Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A. This journal is © The Royal Society of Chemistry 2018

## **Supporting Information**

Synthesis and functionalisation of spherical meso-, hybrid meso/macro- and macro-porous cellular silica foam materials with regulated pore sizes for CO<sub>2</sub> capture

Yuan Sun, <sup>a</sup> Xin Liu, <sup>a</sup> Chenggong Sun\*, <sup>a</sup> Waleed Al-Sarraf, Khai Zhen Foo, <sup>a</sup> Yang Meng, <sup>a</sup> Stevens Lee, <sup>a</sup> Wenlong Wang <sup>b</sup> and Hao Liu <sup>a</sup>

<sup>&</sup>lt;sup>a</sup> Faculty of Engineering, University of Nottingham, University Park, Nottingham NG7 2RD, UK

<sup>&</sup>lt;sup>b</sup> School of Energy and Power Engineering, Shandong University, Jinan, Shandong 250061, P. R. China

<sup>\*</sup> Email: <a href="mailto:cheng-gong.sun@nottingham.ac.uk">cheng-gong.sun@nottingham.ac.uk</a>

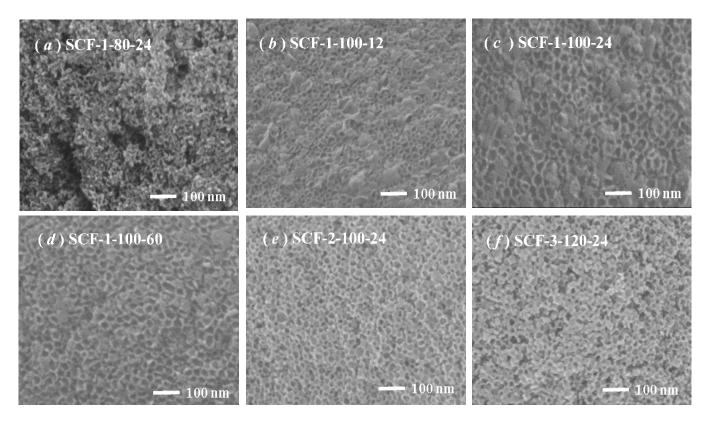


Fig. S1 FEG-SEM images of representative SCF particles synthesized under different preparation conditions, showing the transition from the loosely packed texture of the cellular silica foams prepared at lower temperature and TMB/P123 mass ratios, to more densely packed and ordered structures of the cellular foams prepared at higher aging temperatures and TMB/P123 ratios.

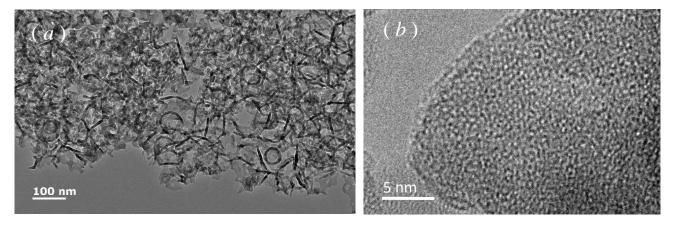


Fig. S2 FEG-TEM images of a representative siliceous cellular foam material prepared at 120 °C and a TMB/P123 mass ratio of 3 with an aging time of 24 hours (SCF-3-120-24), showing the macro-porous foamed structures with dense silica struts or walls composed of highly interconnected and open-celled nano-foams.